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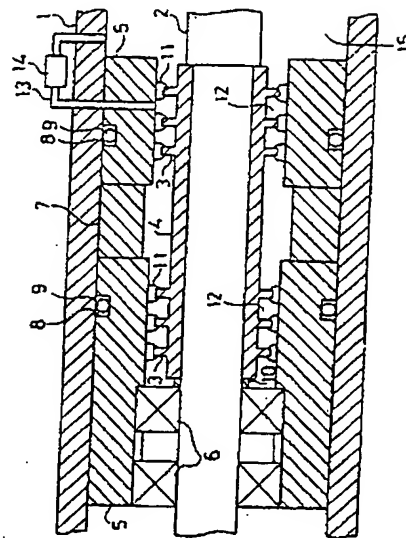
APPLICATION DATE : 24-01-84
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TITLE : MAGNETIC-FLUID SEAL DEVICE



ABSTRACT : PURPOSE: To improve the seal performance by providing a film made of magnetic fluid on an annular lug formed on a bush or a pole piece and communicating a seal chamber to a hermetically sealed chamber with a switching valve in a magnetic-fluid seal device.

CONSTITUTION: An annular lug 3 is formed on the surface of a rotary shaft 2, and when a magnetic fluid is injected, the magnetic fluid is stuck between the inner periphery of a pole piece 5 and the outer periphery of the annular lug 3 to form a ring-like film 11, and a seal chamber 12 is formed. In addition, the seal chamber 12 is communicated to a vacuum chamber 15 as a hermetically sealed chamber with a pipeline 13, and a switching valve 14 is provided in the middle of the pipeline 13. Accordingly, the hermetically sealed chamber and the seal chamber communicated to this hermetically sealed chamber have the same pressure, and even when the seal capability of the film is deteriorated by the disturbance such as the vibration of the rotary shaft, the hermetically sealed chamber is completely cut off from the outside air, and the initial chamber pressure can be maintained.

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